1. Identification

Product identifier: HYDROGEN PEROXIDE 32% NSF
Other means of identification: None.
Recommended use: ALL PROPER AND LEGAL PURPOSES
Recommended restrictions: None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer:
Company name: Brenntag Mid-South, Inc.
Address: 1405 Highway 136, West
Henderson, KY 42420
Telephone: 270-830-1222
E-mail: Not available.
Emergency phone number: 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards: Oxidizing liquids
Health hazards: Skin corrosion/irritation

Serious eye damage/eye irritation
Specific target organ toxicity, single exposure
Specific target organ toxicity, repeated exposure

Environmental hazards: Not classified.
OSHA defined hazards: Not classified.
Label elements

Signal word: Danger
Hazard statement: May intensify fire; oxidizer. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement
Prevention: Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response: If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC): None known.
Supplemental information: None.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROGEN PEROXIDE (H2O2)</td>
<td></td>
<td>7722-84-1</td>
<td>32</td>
</tr>
</tbody>
</table>

Other components below reportable levels

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact
IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information
Take off all contaminated clothing immediately. Contact with combustible material may cause fire. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up

Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US, OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)</td>
<td>PEL</td>
<td>1.4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>PPM</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US, ACGIH Threshold Limit Values Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)</td>
<td>TWA</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

US, NIOSH: Pocket Guide to Chemical Hazards Components

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<th>US, ACGIH Threshold Limit Values Components</th>
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<td></td>
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<td>1 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection
Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection
Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Other
Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection
Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state: Liquid.
Form: Liquid.
Color: CLEAR COLORLESS
Odor: Pungent
Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: -27 °F (-32.78 °C)
Initial boiling point and boiling range: 241.95 °F (116.64 °C) estimated
Flash point: Not available.
Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%): Not available.
Flammability limit - upper (%): Not available.
Explosive limit - lower (%): Not available.
Explosive limit - upper (%): Not available.

Vapor pressure: Not available.
Vapor density: Not available.
Relative density: Not available.

Solubility (solid, gas): Not available.
Solubility (water): Not available.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

Other information

Density: 9.16 lbs/gal
Explosive properties: Not explosive.
Oxidizing properties: May intensify fire; oxidizer.
Percent volatile: 68 % estimated
Specific gravity: 1.1

10. Stability and reactivity

Reactivity: Greatly increases the burning rate of combustible materials.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Heat. Contact with incompatible materials.
Incompatible materials: Combustible material. Reducing agents.
Hazardous decomposition products: No hazardous decomposition products are known.
11. Toxicological information

Information on likely routes of exposure

Inhalation  May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system.

Skin contact  Causes severe skin burns.

Eye contact  Causes serious eye damage.

Ingestion  Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics  Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity  May cause respiratory irritation.

Skin corrosion/irritation  Causes severe skin burns and eye damage.

Serious eye damage/eye irritation  Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization  Not a respiratory sensitizer.

Skin sensitization  This product is not expected to cause skin sensitization.

Germ cell mutagenicity  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)  Not classifiable as to carcinogenicity to humans.


US. National Toxicology Program (NTP) Report on Carcinogens  Not listed.

Reproductive toxicity  This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure  May cause respiratory irritation.

Specific target organ toxicity - repeated exposure  May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard  Not an aspiration hazard.

Chronic effects  May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity  The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability  No data is available on the degradability of this product.

Bioaccumulative potential  No data available.

Mobility in soil  No data available.

Other adverse effects  No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions  Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations  Dispose in accordance with all applicable regulations.

Hazardous waste code  The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products  Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging  Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number  UN2014
UN proper shipping name  HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
Transport hazard class(es)
  Class  5.1
  Subsidiary risk  8
Packing group  II
Special precautions for user  Read safety instructions, SDS and emergency procedures before handling.
ERG number  140
DOT information on packaging may be different from that listed.

15. Regulatory information

US federal regulations  This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)
  Not listed.
SARA 304 Emergency release notification
  HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1) 1000 LBS
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
  Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories  Immediate Hazard - Yes
  Delayed Hazard - Yes
  Fire Hazard - Yes
  Pressure Hazard - No
  Reactivity Hazard - No

SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity</th>
<th>Threshold planning quantity, lower value</th>
<th>Threshold planning quantity, upper value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROGEN PEROXIDE (H2O2)</td>
<td>7722-84-1</td>
<td>1000</td>
<td>1000 lbs</td>
<td></td>
</tr>
<tr>
<td>SARA 311/312 Hazardous chemical</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 313 (TRI reporting)</td>
<td>Not regulated.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)
US. New Jersey Worker and Community Right-to-Know Act
HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)
US. Pennsylvania Worker and Community Right-to-Know Law
HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)
US. Rhode Island RTK
HYDROGEN PEROXIDE (H2O2) (CAS 7722-84-1)
US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: 04-22-2015
Revision date: 05-04-2016
Version #: 04

HMIS® ratings
Health: 3*
Flammability: 0
Physical hazard: 2

NFPA ratings
Health: 3
Flammability: 0
Instability: 1
Special hazards: OX

Disclaimer
While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

Revision information
Hazard(s) identification: Response
Exposure controls/personal protection: Generalized Statements